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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,790	10/30/2003	Masahiro Sakakibara	244706US3	8915

22850 7590 04/18/2007  
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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ANDERSON, MICHAEL J

ART UNIT	PAPER NUMBER.
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3767

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/18/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/18/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/695,790	<b>Applicant(s)</b> SAKAKIBARA ET AL.	
	<b>Examiner</b> Michael J. Anderson	<b>Art Unit</b> 3767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely-filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____  |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/30/2003, 12/29/2006 and 1/17/1006.

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. Japan  
2003-027025, filed on 10/30/2003.

### ***Information Disclosure Statement***

The references cited on the 3 forms PTO-1449 have been considered, and will be listed  
on any patent resulting from this application since they were provided on a separate list  
in the Information Disclosure Statement (IDS) in compliance with 37 CFR 1.98(a)(1).

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of  
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the  
conditions and requirements of this title.

With regard to claims 17-18, the disclosed invention is inoperative and therefore lacks  
utility. In claim 17, the opened engaging claws cannot push the piston flange while  
opened. Claim 18 depends from claim 17.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6, 15-17, 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Fielder (US patent No. 6,428,509) (Fielder).

3. With regard to claim 1, 6, 15-17, 22 and 24 Fielder discloses (figure 1) a liquid injection system (10) comprising: a liquid syringe (12) having a cylinder (16) with a cylinder flange (18) disposed on and around an end thereof and a piston (26) slidably inserted in said cylinder and having a piston flange (24) disposed on and around an end thereof; and a liquid injector (10) for holding and moving at least said cylinder flange and said piston flange relatively to each other; said liquid injector comprising a cylinder gripping mechanism (20) for gripping said cylinder such that said cylinder has a longitudinal direction oriented forwardly and rearwardly, a piston pusher (30) supported slidably in forward and rearward directions for pushing said piston at least forwardly, a pair of engaging claws (32) laterally openably and closably mounted on said piston pusher for individually engaging left and right edges of a front face (25) of said piston flange, and gripping detecting (44) means for detecting when said piston flange is gripped by said engaging claws (abstract).

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4. With regard to claim 2 and 23, Fielder discloses the liquid injection system as for claim 1 and further discloses, wherein said gripping detecting means comprises means for detecting when a rear face of said piston is pushed against a front face of said piston pusher (44).

5. With regard to claim 3, Fielder discloses the liquid injection system as for claim 2 and further discloses, wherein said gripping detecting means comprises: a displacement detecting member (44) for being pressed by said rear face of said piston; a member support (30) means for supporting said displacement detecting member such that said displacement detecting member can be displaced forwardly and rearwardly; member biasing means for normally urging said displacement detecting member forwardly; and retraction detecting means for detecting when said displacement detecting member is retracted to a predetermined position (column 6, lines 10-20).

6. With regard to claim 6, Fielder discloses the liquid injection system as for claim 2, and further discloses, wherein said gripping detecting means comprises: wave range finder device for measuring a distance up to the rear face of said piston with a wave, and gripping determining means for detecting when a distance measured by said wave range finder falls in a predetermined range (column 6, lines 9-20, optical sensor).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fielder in view of Yamagata (US patent No. 5,823,998) (Yamagata).

9. With regard to claims 4 and 20 Fielder discloses the liquid injection system as for claims 1 and 3, however, Fielder may not disclose wherein said piston has a concave defined centrally in the rear face thereof, at least said displacement detecting member of said gripping detecting means being engageable in said concave. Yamagata teaches a concave piston surface (column 5, lines 37-67) and detection member. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Fielder as taught by Yamagata to provide a syringe piston position detection system.

10. Claims 5, 20 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fielder in view of Hoss (US patent No. 5,522,680) (Hoss).

11. With regard to claims 5, 20 and 25-29, Fielder discloses the liquid injection system as for claims 1, 3, 4,5,10,12 and 20 however, Fielder may not disclose, wherein said piston has a convex disposed centrally on the rear face thereof, and said piston pusher has a concave defined centrally in the front surface thereof, said convex being engageable in said concave, said gripping detecting means being disposed in said concave. Hoss teaches a concave or convex piston surface (column 5, lines 37-67) and detection member. Therefore, it would have been an obvious design choice to a person of ordinary skill in the art at the time the invention was made to modify Fielder as taught by Hoss to provide a syringe piston position detection system.

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12. Claims 7-14, 19 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fielder in view of Stringer (US patent No. 6,064,629) (Stringer).

13. With regard to claims 7-14, 19 and 30-32 Fielder (and in view of Stringer) discloses the liquid injection system as for claims 2, 6, (9, 11, 13) and 15, however, Fielder may not disclose, wherein said detecting device comprises various distance measuring components measuring the distance up to the rear face of said piston. Stringer teaches ultrasonic, optical, load cell, LED, reflective, magnetic and capacitive distance and other measurement sensors (column 2, lines 46-67; column 3, lines 1-20 column 6, lines 19-45). Therefore, it would have been an obvious design choice to a person of ordinary skill in the art at the time the invention was made to modify Fielder as taught by Stringer to provide a syringe piston position detection system.

14. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fielder in view of Morris (US patent publication No. 2003/0229311 A1) (Morris).

15. With regard to claim 21 Fielder discloses the liquid injection system as for claim 1 however, Fielder may not disclose a guide projecting forwardly from said piston pusher at a position different from said engaging claws, for engaging an outer circumferential surface of said piston flange. Morris teaches a projecting guide. Therefore, it would have been to a person of ordinary skill in the art at the time the invention was made to modify Fielder as taught by Morris to provide a syringe piston position holder system.



### **Conclusion**

References considered pertinent to Applicants' disclosure are listed on form PTO-892.

All references listed on form PTO-892 are cited in their entirety.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Anderson whose telephone number is (571) 272-2764. The examiner can normally be reached on M-F 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin C. Sirmons can be reached on (571) 272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KEVIN C. SIRMONS  
SUPERVISORY PATENT EXAMINER



Michael J Anderson  
Examiner  
Art Unit 3767

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MJA  
4/9/2007